CLAIMS

1. A device manufacturing method comprising:

projecting a patterned beam of radiation, with a lithographic projection apparatus, onto a target area of a layer of radiation-sensitive material on a first surface of a substrate, said substrate including a second surface, which is opposite to the first surface and which includes at least one alignment marker, said second surface being supported by a substrate table that is substantially formed from a material that is opaque at a wavelength of projection of said lithographic projection apparatus;

coupling light from said at least one alignment marker on said second surface of said substrate to a location adjacent an edge of said substrate, with at least one optical system arranged in said substrate table;

aligning said substrate using said at least one alignment marker on said second surface of said substrate and an alignment system optically coupled to said at least one optical system; and

based upon said alignment, forming at least one patterned layer on said first surface of said substrate;

wherein said alignment is performed without using alignment markers on said first surface of said substrate.

2. A method according to claim 1, wherein said alignment system is an off-axis alignment system.

3. A method according to claim 1, further comprising forming a plurality of patterned layers on said first surface of said substrate without using alignment markers on said first surface of said substrate.

4. A method according to claim 1, wherein said at least one alignment marker on said second surface and said at least one patterned layer on said first surface of said substrate are formed using a same lithographic projection apparatus

5. A method according to claim 1, wherein said optical system of said substrate table comprises optics arranged to form an image in a plane which is substantially

perpendicular to an optical axis of said alignment system, said image being located outside of a perimeter of said substrate.

6. A method according to claim 1, wherein said material that is opaque at a wavelength of projection of said lithographic projection apparatus is a ceramic material.

7. A method according to claim 6, wherein said material comprises Zerodur.

8. A device manufacturing method comprising:

projecting a patterned beam of radiation, with a lithographic projection apparatus, onto a target area of a layer of radiation-sensitive material on a first surface of a substrate, said substrate including a second surface, which is opposite to the first surface and which includes at least one alignment marker, said second surface being supported by a substrate table formed from a material that is substantially opaque at a wavelength of projection of said lithographic projection apparatus;

coupling light from said at least one alignment marker on said second surface of said substrate, through said substrate table, with at least one optical system in said substrate table;

directing said light upwards in a direction parallel to an optical axis of a projection system of said lithographic projection apparatus;

aligning said substrate using an alignment system optically coupled to said upwardly directed light; and

based upon said alignment, forming at least one patterned layer on said first surface of said substrate using said lithographic projection apparatus; wherein

said alignment is performed without using alignment markers on said first surface of said substrate.

9. A method according to claim 8, wherein said alignment system is an off-axis alignment system.

10. A method according to claim 8, further comprising forming a plurality of patterned layers on said first surface of said substrate without using alignment markers on said first surface of said substrate.

11. A method according to claim 8, wherein said at least one alignment marker is patterned onto said second surface of said substrate using the same lithographic projection apparatus that is used to form said at least one patterned layer on said first surface of said substrate.

12. A method according to claim 8, wherein said optical system of said substrate table comprises optics arranged to form an image in a plane which is substantially perpendicular to an optical axis of said alignment system, said image being located outside of a perimeter of said substrate.

13. A method according to claim 8, wherein said material that is opaque at a wavelength of projection of said lithographic projection apparatus is a ceramic material.

14. A method according to claim 13, wherein said material comprises Zerodur.

15. A device manufacturing method comprising:

projecting a patterned beam of radiation onto a target area of a layer of radiation-sensitive material on a first surface of a substrate, said substrate including a second surface, which is opposite to the first surface and which includes at least one alignment marker, said second surface being supported by a substrate table;

coupling light from said at least one alignment marker on said second surface of said substrate to an off-axis alignment system;

aligning said substrate using said off-axis alignment system; and

based upon said alignment, forming at least one patterned layer on said first surface of said substrate;

wherein said alignment is performed without using alignment markers on said first surface of said substrate.

16. A method according to claim 15, further comprising forming a plurality of patterned layers formed on said first surface of said substrate without using alignment markers on said first surface of said substrate.

17. A method according to claim 15, wherein said at least one alignment marker on said second surface and said at least one patterned layer on said first surface of said

substrate are formed using a same lithographic projection apparatus.

18. A method according to claim 15, wherein said optical system of said substrate table comprises optics arranged to form an image in a plane which is substantially perpendicular to an optical axis of said alignment system, said image being located outside of a perimeter of said substrate.